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MANAGEMENT AUDIT REPORT
of
TRAFFIC DEPARTMENT

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Piper, C. Erwin

[LA. Dept. of traffic]

by

Traffic LA

C. Erwin Piper
City Administrative Officer

January, 1976

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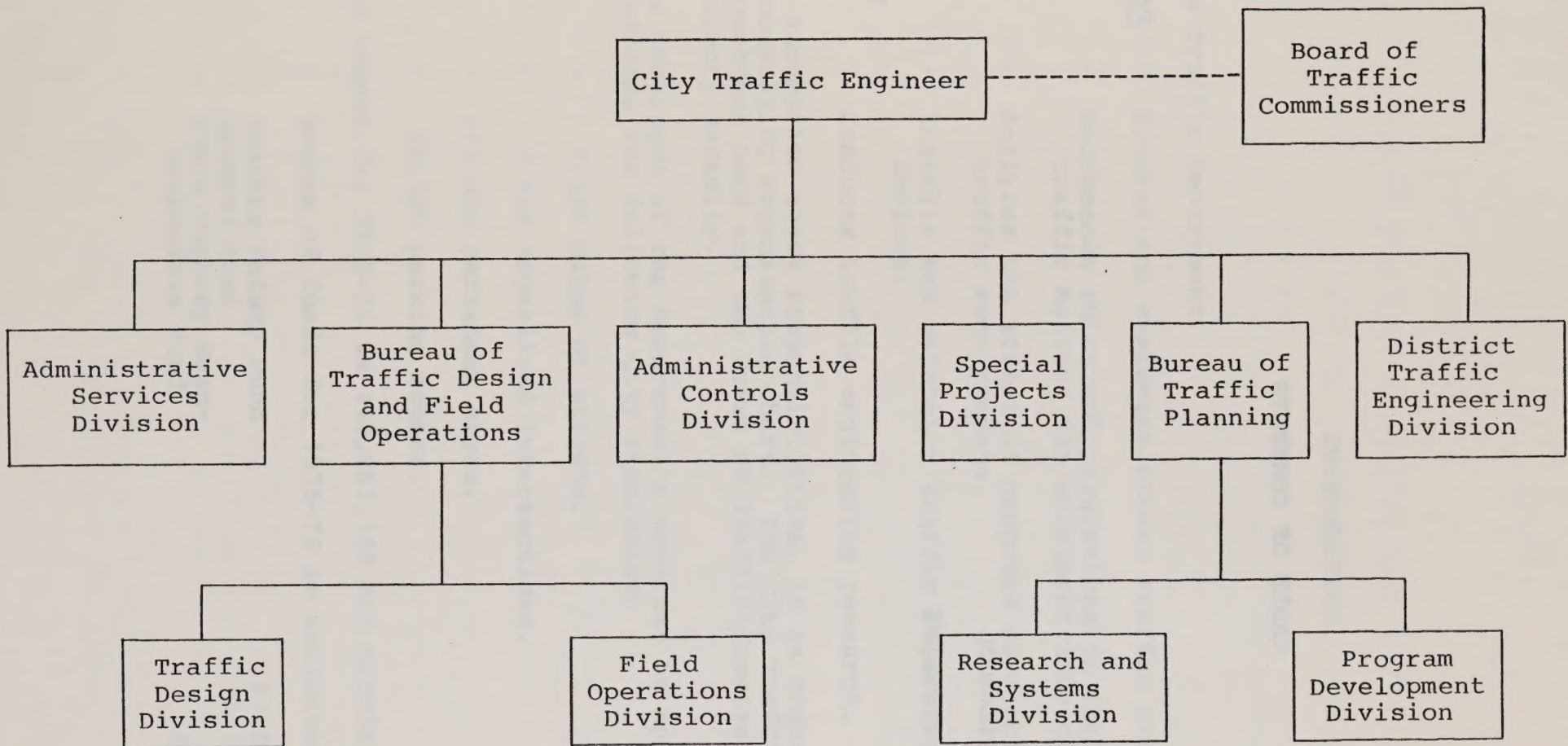


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INTRODUCTION

The Traffic Department:

- Studies and evaluates street traffic problems.
- Recommends rules and regulations to the Council concerning traffic matters for enactment into ordinance.
- Analyzes the effect of proposed developments on parking and traffic requirements.
- Installs and maintains traffic regulatory control and safety devices.
- Conducts traffic engineering research.

To accomplish these responsibilities, it is organized as shown on the accompanying organization chart. The City Traffic Engineer is the Department head and the Board of Traffic Commissioners acts in an advisory capacity.

The magnitude of the Department's work can be appreciated when one considers the following City statistics:

- 7,324 miles of streets.
- 3,536 signalized intersections.
- 415,000 permanent signs.
- 24,600 parking meters.

Its budget for 1975-76 is \$10,851,189 and provides for 586 employees.

Source of funds for 1975-76 is estimated as follows:

Traffic Safety Fund	\$7,500,000 (69.12%)
General Fund	3,101,189 (28.58%)
State Highway Reimbursements Fund	250,000 (2.30%)

The 1975-76 Fiscal Year budget for the Department is as follows:

<u>Program</u>	<u>Budget</u>	<u>%</u>
Traffic Control System Monitoring	\$ 793,481	7.3
Traffic Control System Improvements	3,401,313	31.3
Traffic Control System Maintenance	4,173,154	38.5
Technical Support	1,520,539	14.0
General Administration and Support	\$ 962,702	8.9
TOTAL	<u>\$10,851,189</u>	<u>100.0</u>

In addition, \$3.8 million is budgeted from Gas Tax Funds in the Capital Improvement Expenditure Program for traffic control work by the Department. Also, \$4.7 million for related costs are included in budgets of other City departments.

This is the third management audit of the Traffic Department by the City Administrative Officer. Emphasis was placed on problems and areas where productivity could be increased. Members of the Audit Team interviewed employees and management personnel at all levels within the Department.

Drafts of the audit report were given to the City Traffic Engineer on three separate occasions. Attempts have been made for several months to get his comments on the audit report, but without success. The City Traffic Engineer has stated that he does not concur with the audit report and that he'll make oral comments to the City Council's Governmental Efficiency Committee when it considers the audit report.

The audit report was also reviewed by the President of the Board of Traffic Commissioners.

EVALUATION

Signal maintenance work is well organized and well supervised. Recent establishment of supervisory inspections has increased the efficiency of this activity. The productivity of signal construction has decreased due to the unavailability of a program and a corresponding lack of design plans.

Some engineers expressed the opinion that certain intersections may be overdesigned in that such items as pedestrian heads are installed without regard to the number of pedestrians who use these locations. Also, the opinion was expressed that the City is approaching a time when a sufficient number of signals will be installed. The City Traffic Engineer disagrees with these opinions.

Citizen requests and complaints regarding proposed traffic improvements are referred to a district office for investigation and reply. In 1974-75, over 9,800 investigation requests were received, and 87.5 percent were answered within 90 days.

The sign installation and maintenance function is divided into five sections: Western, Central, and Valley Districts; Special Sign Program; and Restricted Parking for Street Cleaning. This last program is financed for only four months during the 1975-76 Fiscal Year to complete a program started the previous fiscal year. Supervision is very slight except for routinely handing out work orders and processing completed work orders. Supervision of crews in the field is nearly non-existent after they leave the yard in the morning because of difficulty in locating them. With better supervision, increased production would be possible.

The above comments regarding supervision of the sign function are also applicable to the general pavement marking function. However, the work load is different. Pavement markings do not get accomplished on a timely basis primarily due to inadequate equipment which, in turn, limits the effectiveness of the crews. Some normal maintenance repainting has been postponed for more than two years. When this occurs, pavement markings get so bad that it is necessary to write work orders on the worst parts. This increases the backlog of work order jobs and delays normal maintenance repainting of the whole area. This situation is further complicated by stopping maintenance work for five months each year to repaint all crosswalks near schools.

The functions of sign manufacturing, parking meter repair, special traffic control, markout and sandblast, and striping and plasticizing are well supervised and are generally performed on a

timely basis with the exception of paint striping. The one major problem results from extensive down time of the paint striping equipment. This, in turn, results in ineffective utilization of the crews.

The Department has a good automated system to document costs of traffic improvements and assure maximum reimbursement to the City from Gas Tax and other special funding sources.

Management has an aggressive Affirmative Action Program and is conscientiously working to provide equal employment opportunities in hiring, assigning, training, and promoting employees.

AFFIRMATIVE ACTION PROGRAM

Management of the Traffic Department has developed a number of policies, procedures, and activities in support of its Affirmative Action Program. Although not all of its 1974-75 quantitative goals were met, satisfactory progress has been made, given recent turnover rates, limited recruiting capabilities, personnel reductions due to budget cuts, and other factors experienced by many City departments.

In March, 1975, representatives of the State Department of Transportation reviewed the Traffic Department's Affirmative Action Program. They found it to be in compliance with the requirements for receiving Federal-aid Highway Funds and noted that it was being "effectively implemented."

The Department has a good program for disseminating information to all employees regarding Affirmative Action. In the last six months, it has distributed regular bulletins regarding such things as:

1. Career Counseling which is available from the Department's Special Employment Unit, and
2. Policy statements and procedures to promote equal opportunity.

A special bulletin was prepared for CETA personnel to explain basic employee rights and privileges, training opportunities, and career counseling.

Training schedules have been established to encourage employees to participate in classes which will contribute to their upward mobility. Some of these classes are presented by other agencies, and some have been prepared specifically for Traffic Department employees.

The Department has developed a Skills Inventory and Identification Program to aid in identifying needs and developing activities such as career counseling, training, and planning for promotional examinations.

On a long-range basis (beyond five years), the Department would like to achieve parity with the distribution of minorities and women in the City Civilian Labor Force for most occupational categories. As of June 30, 1975, parity has already been reached in several areas. Underrepresentation is most severe for women, in all but the Office/Clerical Category, and for Spanish-Surnamed in the

Professional and Technical Categories. Progress in these areas has been slow for Traffic and many other departments because of the difficulty in recruiting candidates with the proper qualifications available for a current job opening. The Department hopes to enlist the assistance of present employees in the Technical and Professional Categories who may have acquaintances and business contacts with the necessary skills to fill vacant positions.

DISCUSSION OF MAJOR PROBLEMS

Modifying the 1,600 intersections listed as "deficient" intersections may not improve traffic safety.

These "deficient" intersections are the basis for the City's signal construction program. However, "deficiencies" exist because each intersection has been compared to the current design standards. These standards change through the years, with the result that a change in a design standard could cause many of the signalized intersections in the City to be considered "deficient."

A comparison can be made of "deficiencies" by category at each intersection with the accident reports for those intersections. In this way, some comparison of before and after results is possible. Studies have indicated that certain types of improvements do reduce accidents, while other types have no effect at all on traffic safety.

See Recommendation No. 4.

The replacement program for traffic signal emergency repair trucks is inadequate.

The Department has some emergency repair trucks that are used seven days a week, 24 hours a day. Many of these trucks have mileage in excess of 90,000. The current replacement program allows vehicles to remain in service for six years. This is proving to be too long for the type of vehicle currently in use. Consideration is being given to changing the type of vehicle to reduce replacement costs.

See Recommendation No. 5.

Traffic Signal Electricians require additional training.

Traffic Signal Electricians are hired from the outside, normally without training and experience in traffic signal electrical repair work. This is a new field for many electricians and they are unfamiliar with the problems and possible solutions. As control devices become more complicated, the need for specialized training becomes greater.

See Recommendation No. 6.

The Department has no signal construction program.

At the time of the audit, the Department had no program ready for signal construction forces and many signal construction crews were working on a day-to-day basis. Some locations were named, but priorities were changed several times causing a delay in plan preparation. Only three new signals were under construction because design plans were not ready for release to construction crews.

Responsibility for compiling the signal construction program was reassigned several times in the last year, with the result that no design program was prepared with sufficient lead time to have plans ready for field crews by July 1. Also, construction of some signals depends upon Federal financing and this may cause a delay before final approval is obtained.

In addition, the names of the intersections proposed for signalization are not submitted for consideration as a part of the City's Capital Improvement Expenditure Program.

See Recommendation Nos. 3 and 11.

Paint striping equipment is out of service frequently.

The Department has five paint striping trucks. These trucks were out of service 63 percent of the time in the 1974-75 Fiscal Year. Two are older units and two were purchased about a year and a half ago. The latter have been out of service almost continuously since delivery. During 1974-75, one was in service 40 days; the other 12 days. The fifth machine, received around May 1, 1975, has already had minor breakdowns.

See Recommendation No. 9.

Development of equipment specifications without consulting field personnel has resulted in the purchase of inadequate equipment.

A common complaint by field crews is that they seldom have input into new equipment purchases and do not participate in the development of specifications for equipment they will be expected to use. As a result, equipment is purchased which is inadequate, unsafe, or requires expensive modifications after acquisition.

The Idaho-Norland paint striper, acquired May 1, 1975, has a stationary paint sprayer on the left side only. Consequently, only

one lane can be painted at a time and the curb line, or the first lane line if parking is permitted, cannot be painted. Since the sprayer is stationary, the truck driver must maneuver the truck to control the sprayer, which is at the rear of the truck, rather than its being controlled by the painter operator. To paint the left turn bays, the truck driver must watch the sprayer in a rear view mirror while swinging the truck into the on-coming traffic lanes to make the curves. Modifications needed would include an additional sprayer on the right side and sprayers mounted on moveable booms controlled by the painter operator.

See Recommendation Nos. 8 and 10.

Annual repainting of school crosswalks adversely affects the Department's maintenance program for other pavement markings.

There are 4,852 school crosswalks in the City which are repainted each year. While school crosswalks are being repainted, all painting crews, except one in each yard, are taken off other regular maintenance work. This has an extremely adverse effect upon the maintenance of other pavement markings.

The useful life of thermo-plastic is up to five times that of regular paint. The use of thermo-plastic on school crosswalks would allow the paint maintenance crews to continue normal maintenance work for other pavement markings without interruption during the year. The use of thermo-plastic in lieu of paint for school crosswalks and other pavement markings might provide considerable savings in labor costs. There had been a problem with the yellow plastic fading, but this problem no longer exists.

See Recommendation No. 7.

Assignments of the Deputy City Traffic Engineer and other high-level positions are inappropriate for effective management.

A Deputy City Traffic Engineer was authorized to act as the Department's chief assistant to the General Manager, with direct supervision over all bureaus. However, since the latter part of 1972, the Deputy has been relieved of much responsibility to the point where, at the time of the audit, he supervised only the Bureau of Traffic Design and Field Operations.

The number of positions reporting directly to top management is excessive and should be reduced. The organization chart attached

as Exhibit A shows one alternative for consolidating closely-related functions at a lower level to assure mid-management review and coordination.

See Recommendation No. 1.

The Department does not use the information available to monitor and control performance of field crews.

Information is available via the Department's Traffic Cost Accounting System (TRACS) which would support effective work measurement and control of field crews. Specific reports could be generated for evaluation of work performance standards, review of scheduling based upon historical resources and time for various project categories, adjustment of schedules based upon the productivity of each field crew, and focus on abnormal performance or inappropriate standards. The work reporting procedure which supports TRACS is sufficiently detailed to provide the information needed for an effective work measurement and control system.

See Recommendation No. 2.

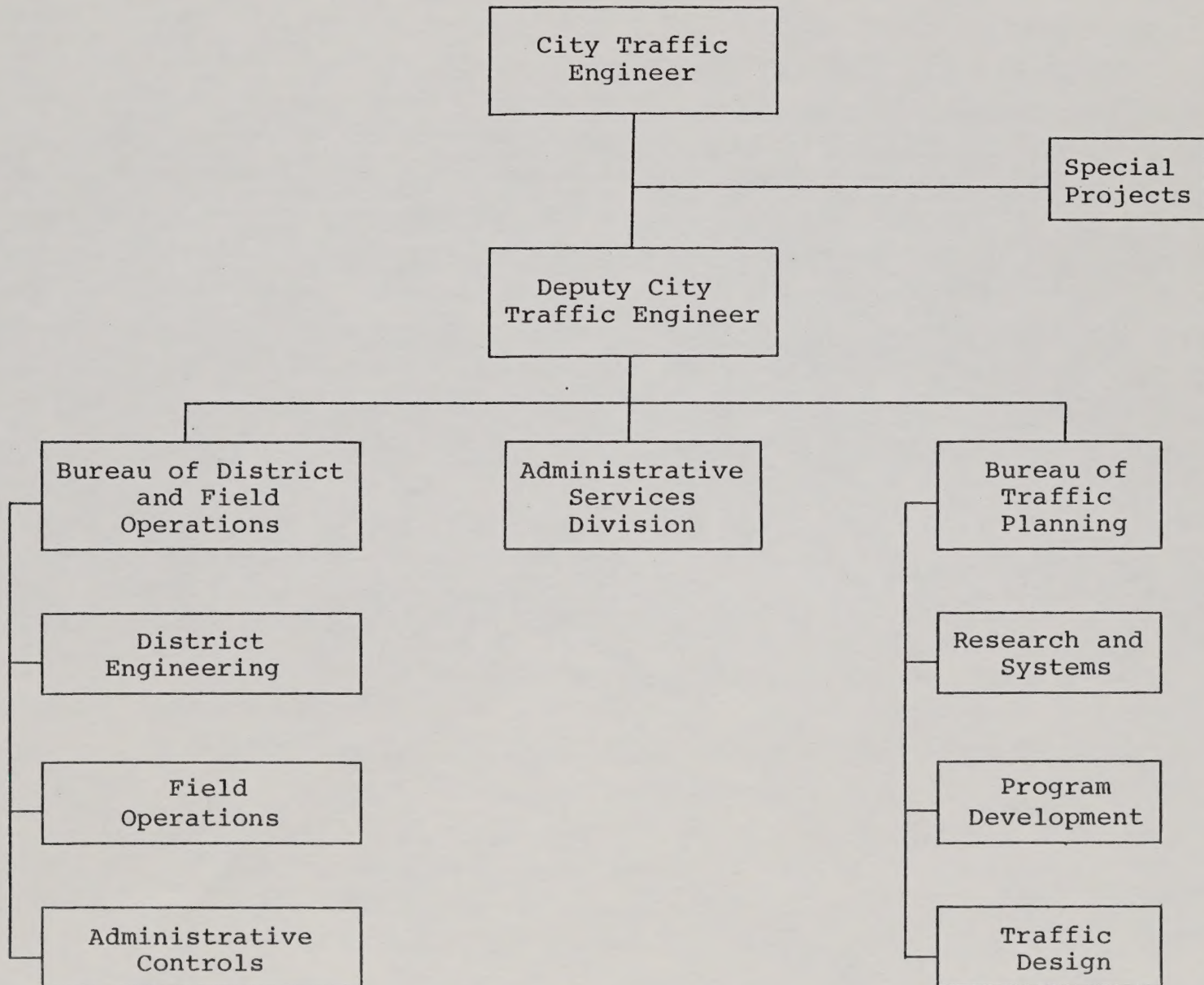
RECOMMENDATIONS

It is recommended that the City Traffic Engineer:

1. a. Revise the Department organization so that the Deputy City Traffic Engineer is assigned the responsibilities for which his position was originally approved.
b. Consolidate closely-related functions at a level which will reduce the number of positions reporting directly to top management.
2. Direct the Research and Systems Division to develop a plan for making use of the information available in the Traffic Cost Accounting System (TRACS).
3. Assign the responsibility for compiling the traffic signal construction program to one individual with authority to compile the program in priority order for the City Traffic Engineer's final approval.
4. Direct the Research and Systems Division to perform a cost-benefit analysis between "deficient" intersections and the type of improvements that have historically reduced traffic accidents.
5. Discuss with the Bureau of Transportation the proposed change in the type of vehicle used for traffic signal repair and to determine an adequate replacement program.
6. Institute a training program for Traffic Signal Electricians.
7. Prepare a comparative benefit/cost analysis of thermo-plastic versus paint in the maintenance of general pavement markings, especially school crosswalks.
8. Develop a written procedure whereby design specifications for all special purpose vehicles and equipment are reviewed by the Personnel Department's Safety Engineer and by the field crews and supervisors who eventually will use this equipment.
9. Take whatever action is necessary to make the two intermediate paint stripers operable.
10. Request an interim appropriation of funds for the necessary alterations on the new Idaho-Norland paint striper.

11. Submit, as a part of his Department's budget request, the names of the new intersections proposed for signalization so that they may be included in the City's Capital Improvement Expenditure Program.

PROPOSED ORGANIZATION CHART



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